NPDES Permit No. AZ0022560

AUTHORIZATION TO DISCHARGE UNDER THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Clean Water Act, as amended (33 U.S.C. 1251 et. seq; the "Act"),

Hopi Agency
Bureau of Indians Affairs
U.S. Department of Interior
P.O. Box 158
Keams Canyon, Arizona 86034

is authorized to discharge treated wastewater from the BIA Keams Canyon Sewage Lagoon facility located in the community of Keams Canyon in Navajo County, from Discharge Outfall Number 001,

Latitude: 35° 49' 30" N
Longitude: 110° 13' 18" W

to receiving waters named Keams Canyon Wash, tributary to Polacca Wash, tributary to Corn Creek Wash, eventual tributary to the Little Colorado River, in accordance with effluent limitations, monitoring requirements and in the attached 14 pages of EPA Region 9 "Standard Federal NPDES Permit Conditions," dated May 10, 1990.

This permit shall become effective on _____.

This permit and the authorization to discharge shall expire at midnight, _____.

Signed this_____day of _____

For the Regional Administrator

Alexis Strauss, Director
Water Division
EPA, Region 9

SECTION A. EFFLUENT LIMITATION AND MONITORING REQUIREMENTS

Based upon the current average capacity of 0.036 MGD, the permittee is authorized to discharge from Outfall Serial Number 001 treated domestic wastewater.

1. The influent shall be sampled prior to it entering the lagoon. The effluent shall be sampled after final treatment prior to discharge to Keams Canyon Wash, tributary to Polacca Wash, tributary to Corn Creek Wash, eventual tributary to the Little Colorado River.

2. Such discharge shall be limited and monitored by the permittee as specified below:

Effluent Parameter	Units	Monthly Average	Weekly Average	Daily Maximum	Monitoring Frequency[1]	Sample Type
Flow[1]	MGD	--	--	--	Once/month	Instantaneous
BOD_5[2]	mg/l	30	45	--	Once/month	Composite
	kg/day	4.1	6.1	--		
TSS[2]	mg/l	90	135	--	Once/month	Composite
	kg/day	12.2	18.2	--		
Fecal Coliform Bacteria	#/100 ml	200[3]	--	800[4]	Once/month	Discrete
TRC[5]	ug/l	--	--	11.0	Once/month	Discrete
Dissolved Oxygen[6]	mg/l	--	--	> 6.0	Once/month	Composite
NH_3[7]	mg/l	0.04	--	--	Once/month	Discrete
pH	std. units	between 6.5 to 9.0			Once/week	Discrete
Temp[8]	deg F	--	--	90°F	Once/quarter	Discrete

NOTES:

1. Both the influent and effluent shall be monitored and reported. The effluent shall be sampled at the pipe coming out of Outfall Number 001. All samples shall be discrete unless otherwise noted.

2. For BOD_5, the arithmetic means of values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same times during the same period. For TSS, the arithmetic means of values, by weight, for effluent samples collected in a period of 30 consecutive calendar days

shall not exceed 35 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same times during the same period.

3. Geometric mean of a minimum of five samples collected during the calendar month.

4. Single sample maximum.

5. "TRC" = Total Residual Chlorine. If chlorination is used, the permittee shall at all times operate the plant to achieve the lowest possible residual chlorine while still complying with permit limits for fecal coliform.

   TRC shall also be measured once/month at the outfall and reported on the Discharge Monitoring Reports, along with an estimate of the natural flow of the stream.

6. Minimum dissolved oxygen of 6 mg/l, based on the Hopi Water Quality Standards for aquatic and wildlife (warm water habitat) for support and propagation of animals, plants, or other organisms.

7. "NH3" = un-ionized ammonia. Should the results of the first four quarters of tests reveal levels below EPA's National Water Quality Criteria for ammonia, the monitoring frequency will be decreased to once/year. See Section C (Permit Reopener) below.

8. Temperature measurements shall be taken concurrently with measurements for ammonia.

SECTION B. GENERAL DISCHARGE SPECIFICATIONS

1. Stream Bottom Deposits: Surface waters shall be free of water contaminants from other natural causes that will settle and have a deleterious effect on the aquatic biota or that will significantly alter the physical or chemical properties of the water of the bottom sediments.

2. Floating Solids, Oil and Grease: Survace waters shall be free from objectionable oils, scum, foam, grease, and other floating materials and suspended substances of a persistent nature resulting from other than natural causes (including visible films of oil, globules of oil, grease, or solids in or on the water, or coatings on stream bands.) As a guideline, oil and grease discharged into surface waters shall not exceed 10 mg/l average or 15 mg/l maximum.

3. Color: Surface waters shall be free from the true color-producing materials (other than those resulting from natural causes) that create an aesthetically undesirable condition. Color shall not impair the desingated and other attainable uses of a water body. Color-producing substances from other than natural sources are limited to concentrations equivalent to 70 color units (CU).

4. Odor and Taste: Contaminants from other than natural causes shall be limited to concentrations that do not impart unpalatable flavor to fish, that do not result in offensive odor or taste arising from the water, and that do not otherwise interfere with the designated and other attainable uses of a water body. Taste and odor-producing substances from other than natural origins shall not interfere with the production of a potable water supply by modern treatment methods.

5. Nuisance Conditions: Plant nutrients or other substances stimulating algal growth form other than natural causes shall not be present in concentrations that produce objectionable algal densities or nuisance aquatic vegetatin, or that result in a dominance of nuisance species instream, or that cause nuisance conditions in any other fashion. .

6. Pathogens: Waters shall be free from pathogens. Waters used for irrigation of table crops (e.g., lettuce) shall be free of *Salmonella* and *Shigella* species.

7. Turbidity: Turbidity attributable to other than natural causes shall not reduce light transmission to the point at which aquatic biota are inhibited or to a point that causes an unaesthetic and substantial visible contrast with the natural appearance of the water. Specifically, turbidity shall not exceed 5 nephelometric turbidity units (NTU, a measure of turbidity in water) over background when background turbidity is 50 NTU or less, with no more than a 10-percent increase when background turbidity is more than 50 NTU.

8. Mixing Zones: Where effluent is discharged in surface waters, a continuous zone shall be maintained in which the water is of adequate quality to allow the migration of aquatic life with no significant effluent on their population. The cross-sectional area of wastewater mixing zones shall generally be less than one quarter of the cross-sectional area or flow volume of the receiving stream. Mixing zones are prohibited

in ephemeral waters or where there is no water for dilution.

9. Ratioactive Materials: Concentrations of radioactive constituents shall not exceed the concentration caused by naturally occurring materials.

10. Temperature: The introduction of heat by other than natural causes shall not increase the temperature in a stream, outside a mixing zone, by more than $2.7^{o}C$ ($5^{o}F$), based upon the monthly aferage of the maximum daily temperatures measured at mid-depth or 3 feet (whichever is less) outside the mixing zone. The normal daily and seasonal variations that were present before the addition of heat from other than natural sources shall be maintained. In no case shall man-introduced heat be permitted when the maximum temperature specified for the reach ($20^{o}C/68^{o}F$ for cold water fisheries and $32.2^{o}C/90^{o}F$ for warm water fisheries) would thereby be exceeded. High water temperatures caused by unusually high ambient air temperatures are not violations of these standards.

11. Salinity/Mineral Quality (total dissolved solids, chlorides, and sulfates): Existing mineral quality shall not be altered by municipal, industrial, and instream activities, or other waste discharges, so as to interfere with the designated or attainable uses for a water body. An increase of more than one-third over naturally occurring levels shall not be permitted.

12. Toxic Substances: Toxic substances shall not be present in receiving waters in quantities that are toxic to human, animal, plant, or aquatic life, or in quantities that interfere with the normal propagation, growth, and survival of the sensitive indigenous aquatic biota.

SECTION C. PERMIT REOPENER

Should any of the monitoring indicate that the discharge causes, has the reasonable potential to cause, or contributes to excursions above water quality criteria, the permit may be reopened for the imposition of water quality based limits and/or whole effluent toxicity limits. Also, this permit may be modified, in accordance with the requirements set forth at 40 CFR Parts 122.44 and 124.14, to include appropriate conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any EPA-approved new Tribal water quality standards.

SECTION D. BIOSOLIDS REQUIREMENTS

1. The permittee shall submit a report 60 days prior to disposal of biosolids. The report shall include:

   a. A map showing biosolids handling facilities (e.g. digesters, lagoons, drying beds, incinerators, location of land application and surface disposal sites).

   b. The quantity of biosolids produced in dry metric tons.

   c. The treatment applied to biosolids including process parameters. For example, if the biosolids is digested, report the average temperature and retention time of the digester. If drying beds are used, report depth of application and drying time. If composting is used, report the temperature achieved and duration. Also report dewatering methods and percent biosolids of final reports.

   d. Disposal methods (e.g., 50% to landfill, 40% land applied, 10% sold as commercial product.) Report the names and locations of all facilities receiving waste.

   e. If biosolids is to be land-applied, analyses shall be conducted and submitted for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Molybdenum, Zinc, and Selenium, and for organic-N, ammonium-N, and nitrate-N. The analyses shall be performed using the methods in “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (SW-846) and test results shall be expressed in milligram (mg) pollutant per kilogram (kg) biosolids on a 100% dry weight basis.

   f. If biosolids is placed in a surface disposal site, analyses shall be submitted for Arsenic, Chromium, and Nickel. A groundwater monitoring plan shall be submitted or a certification from a groundwater scientist that there is no potential for groundwater contamination.

2. The permittee shall comply with all standards for sewer biosolids use and disposal established under Section 405(d) of the Clean Water Act, including for existingstandards under 40 CFR Parts 257, 258 and 503.

3. Reports for biosolids monitoring shall be submitted to:

Regional Biosolids Coordinator
US EPA (WTR-7)
75 Hawthorne Street
San Francisco, CA 94105-3901

SECTION E. REPORTING AND REPORTING

1. For effluent analyses, the permittee shall utilize an EPA-approved analytical method with a Method Detection Limit (MDL) that is lower than the effluent limitations (or lower than applicable water quality criteria if monitoring is required but no effluent limitations have been established.) MDL is the minimum concentration of an analyte that can be detected with 99% confidence that the analyte concentration is greater than zero, as defined by the specific laboratory method listed in 40 CFR Part 136. The procedure for determination of a laboratory MDL is in 40 CFR Part 136, Appendix B.

2. If all published MDLs are higher than the effluent limitations (or applicable criteria concentrations), the permittee shall utilize the EPA-approved analytical method with the lowest published MDL.

3. Monitoring results obtained during the previous three (3) months shall be summarized for each month and submitted on forms to be supplied by the EPA Regional Administrator, to the extent that the information reported may be entered on the forms. The results of all monitoring required by this permit shall be submitted in such a format as to allow direct comparison with the limitations and requirements of the permit. Unless otherwise specified, discharge flow shall be reported in terms of the average flow over that 30 day period. These reports are due January 28, April 28, July 28, and October 28 of each year.

   Regional Administrator
   Environmental Protection Agency
   Region IX, Attn: WTR-7
   75 Hawthorne Street
   San Francisco, CA 94105

SECTION F. INSPECTION AND ENTRY

The permittee shall allow the Regional Administrator, or an authorized representative or in lieu of the Regional Administrator, on inspections performed under authority of Section 10 Inspection and Entry of the EPA, Region 9, "Standard Federal Permit

Conditions."

SECTION G. DEFINITIONS

The following definitions shall apply unless otherwise specified in this permit:

1. "Discrete sample" means any individual sample collected in less than 15 minutes.

2. "Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar for purposes of sampling. For pollutants with limitations expressed in terms of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the sampling day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the sampling day. "Daily discharge" determination of concentration made using a composite sample shall be the concentration of the composite sample. When grab samples are used, the "daily discharge" determination of concentration shall be the arithmetic average (weighted by flow value) of all samples collected during that sampling day.

3. "Daily maximum" discharge limitation means the highest allowable "daily discharge" during the calendar month.

4. "Daily average" discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of daily discharges" measured during that month.

5. A "composite sample" means, for flow rate measurements, the arithmetic mean of no fewer than 4 individual measurements taken at equal intervals for one hour or for the duration of discharge, whichever is shorter. A composite sample means, for than flow rate measurement, a combination of 4 hour(s) or for the duration of the discharge, whichever is shorter. The volume of each individual portion shall be directly proportional to the discharge flow rate at the time of sampling. The sampling period shall coincide with the period of maximum discharge flow.